GILLETTE MADISON PIPELINE PROJECT (GMPP)
TECHNICAL MEMORANDUM #9
Final 7/14/10

TO: Mike Cole, P.E., City of Gillette

FROM: Jaime Tarver, P.E., Tarver Consulting

DATE: July 14, 2010

JOB NO.: BMcD #54432, MMI #4776.001

RE: Plan for Regional Water Supply

CC: Darin Brickman, P.E., BMcD
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ATTACHMENTS:

Attachment #1 – RSPCS Service Area and Potential Participants
Attachment #2 – RSPCS Potential Regional Participants Overall Location Map
Attachment #3 - Table 1 – Regional Data
Attachment #4 - RSPCS Table 7 Summary of Potential Participant's Future Connections

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☐ **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☒ **For Your Use**

INTRODUCTION AND BACKGROUND

The purpose of this technical memo (TM) #9 is to summarize the regional water supply plan considerations that will have an impact on design of the Gillette Madison Pipeline Project (GMPP). The scope of the GMPP relative to the regional water supply includes:

- Consideration of the 2040 water demands for potential regional system participants within the possible regional water system service area
- Inclusion of regional connection stubs with valves for potential regional participants along the proposed Madison transmission pipeline

The documents referenced in preparation of this TM and that will be used in the design of the GMPP include:

- 2007 City of Gillette Long Term Water Supply Level II Study, (Level II)
- Gillette Regional Master Plan Level I Study, August 2009 (GRMP)
- Regional System Participant Connections Study, May 2010 (RSPCS)

The Level II study evaluated the long term water supply options for the City of Gillette and the surrounding area using population growth projections over the next 30 years. The GRMP evaluated the potential of a regional water system. The GRMP presented the possible and probable service areas of the regional system and identified the potential regional participants within those service areas. The RSPCS refined the GRMP regional participant list and outlined the type of service, delivery point including range of flows and available pressures, infrastructure facilities required for connection, and planning level cost estimates for the potential participants. The RSPCS inventory method of establishing the buildout of future regional demands is very different than the population based method used in the Level II study and also in TM #3. The two approaches are compared in the regional water demands section later in this TM.

As requested by the City, design of this project will consider all potential regional participants listed in the RSPCS, which includes regional participants within both the possible and probable service areas. The RSPCS projected peak day demands and recommended regional connection locations are evaluated in this TM for use in the regional water supply plan for the GMPP.

POTENTIAL REGIONAL PARTICIPANTS AND PROPOSED CONNECTION LINES

The potential participant list was refined in the RSPCS from the GRMP. The RSPCS possible and probable service areas and potential regional participants are shown on Attachment #1 – RSPCS Service Area and Potential Participants. The RSPCS revisions to the GRMP regional participant list included:

- Additions:
    - Rozet
    - Wessex Improvement and Service District
    - Graceland Improvement and Service District
    - Mohan Subdivision
    - Buckskin Meadows Subdivision
    - Heritage Village Water and Sewer District

- Exclusions:
  - Town of Pine Haven
  - Town of Moorcroft
  - Western Fuels-Wyoming, Inc.
  - Existing consecutive systems (already supplied by the City of Gillette)
    - East View Manufactured Home Community
    - Foothills Mobile Home Park
    - Highview Mobile Home Park
    - Westview Manufactured Home Community
    - Winland Industrial Park
    - Southern Drive Industrial Park
  - Near-Term Consecutive Systems (water demands are included in the RSPCS and this TM because they are not yet served by the City of Gillette)
    - Interstate Industrial Park
    - Fox Park Subdivision
    - Westridge Water Users Association
    - Mohan Subdivision

The RSPCS grouped the participants in order to utilize shared delivery systems where possible, as shown on Attachment #2 – RSPCS Potential Regional Participants Overall Location. The potential participants and recommended connection lines are also shown in Attachment #3 - Table 1 – Regional Data. The following is a list of all RSPCS potential participants according to their associated connection line(s).

RSPCS Proposed Connection Line	*Potential Regional Participant*
Ward Creek Line #1	Rozet Ranchettes
Ward Creek Line #2	Ward Creek Landowners Association
	Rozet
	Wessex Improvement & Service District
Meadow Springs Line	Cedar Hills Water Association
	Freedom Hills Subdivision
	American Road Water and Sewer District
	Meadow Springs Improvement & Service District
Nickelson Farms Line	Nickelson Farms Water Company
	Rodeo Flats Water Distribution
Central Campbell County Line #1	Central Campbell County Improvement & Service District
Central Campbell County Line #2	

Antelope Valley Line	Antelope Valley – South Douglas Highway I & S District
	Antelope Valley Business Park Improvement & Service District
Crestview Line	Crestview Estates Subdivision
	Hitching Post Trailer Court – South Douglas Highway I & S District
Countryside Line	Countryside Water Users, Inc.
Wrangler Estates Line	Buckskin Meadows Subdivision
	Wrangler Estates
Airport Line	Lakeview Mobile Home Park
	Means Water and Sewer District
	Hoy Mobile Home Park
	Section 4 Water System, Inc.
	Campbell County Airport
Fox Ridge Line	Fox Ridge
Eight Mile Line	Force Road Joint Powers Board
	South Fork Estates
	Rafter D Homeowners Association
	Stone Gate Estates
	Overbrook Subdivision
	Bennor Subdivision
	Cook Road Water District
	Eight Mile Subdivision
Green Valley Line	RAG Coal West Inc./Rawhide School
	Glory Hole Homeowners Association
	Green Valley Estates Improvement & Service District
Ridgeway Line	Ridgeway Community Well Association
Direct Connections	Lemaster Enterprises
	Antelope Mobile Home Park
	Peoples Improvement & Service District
	Stroup Trailer Court – South Douglas Highway I & S District
	Southside Well Improvement & Service District
	Mohan Subdivision – South Douglas Highway I & S District
	Interstate Industrial Park
	Fox Park Subdivision
	Westridge Water Users Association
	Heritage Village Water and Sewer District

As shown on Attachment #2 - RSPCS Potential Regional Participants Overall Location Map and as described in the RSPCS, some of the regional participants are proposed to be connected along the Madison pipelines and some of the participants are to be connected onto the City of Gillette's existing distribution system. The RSPCS differentiates these two types of connections as follows:

- Type 1 – Service Connection to the Madison pipelines, receiving only Madison well field water.
- Type 2 – Service connections to the Gillette water distribution system, receiving only blended water.

The type 1 connections will have an impact on the design and construction of the transmission line and they could possibly have an impact on the hydraulic performance in the future. The connections proposed on the Madison pipeline will be incorporated in the GMPP design as a regional connection stub with a valve and will also be considered during the hydraulic analysis of the system in TM #7. The potential participants that could have type 1 connections onto the Madison pipelines are shown below along with the corresponding TM #8 alignment stationing and design drawing page number. The attached Table 1 shows the type of connection proposed for each potential participant. Attachment #3 - Table 1 – Regional Data also shows the proposed connection lines, type of service, and corresponding TM #8 information.

Proposed Connection Lines along Proposed Transmission Line	*TM #8 Transmission Pipeline Alignment Proposed Connection Station*	*TM #8 Drawings Page Number*
Ward Creek Line #1	Sta 778+00	T20
Ward Creek Line #2	Sta 1095+00	T27
Meadow Springs Line	Sta 531+00	T14
Nickelson Farms Line	Sta 308+00	T7
Central Campbell County Line #1	Sta 227+00	T4
Central Campbell County Line #2	Sta 181+00	T5
Antelope Valley Line	A2 Sta 93+00	A2
Crestview Line	A2 Sta 93+00	A2

There are two regional connections location that are planned to be different from the RSPCS recommendations. The alternate route (Alternate 2) considered in TM #8, page 16, along Swanson Road and Schoonover Street has been accepted by the City and the design team has changed the alternate route to the "primary alignment". The revised alignment provides an opportunity for shorter and more economical regional connections for Antelope Valley and Crestview. The two potential regional participant connections are now proposed at or near the intersection of Schoonover Street and Patty Avenue rather than along Highway 59 as proposed in the RSPCS. The Antelope Valley and Crestview stubs are planned to connect to the revised alignment at approximately station 93+00 shown on page A2 of TM #8.

The RSPCS recommended three (3) typical regional connection configurations along the Madison pipelines in order to provide redundant regional service. The GMPP design will provide regional connection stubs in a configuration that will enable redundant regional service connections; however, the actual regional connection falls outside the scope of this project. While the RSPCS recommended typical regional connection configurations will be evaluated during the GMPP design, the actual design will be based on the site constraints along with various other operational considerations. Three (3) of the eight (8) recommended regional connections are located along the parallel portion of the existing and proposed Madison pipelines: Ward Creek Line #1, Ward Creek Line #2, and Meadow Springs Line. The other five (5) recommended regional connections are located along the proposed Madison pipeline after the alignment diverges south from the existing pipeline near the Wyodak Power Plant. The three (3) recommended connections located along the parallel alignment will be strongly considered for interconnect locations between the existing and proposed Madison pipelines.

REGIONAL WATER DEMANDS AND CLASS OF SERVICE

TM #3 outlined the population and demand projections to be used for design of this project. The projections are based on 2000 census data with growth rates of 4.6% per year applied to 2010 and 1.1% per year applied from 2010 to 2040. Subtracting the 2040 Level II City of Gillette population from the 2040 GRMP regional population produces projected regional population of 12,012 with a peak hour demand of 5,114 gpm.

The RSPCS outlines the future class of service and the projected peak day demand for the potential participants. The water service extension concepts indentified in the GRMP served as the basis of design for providing service to 42 potential regional system participants according to the RSPCS (page 1-1). The RSPCS states the potential regional participant buildout average and maximum day demands were established based on population projections and system inventories from the Master Plan (page 3-8). Buildout demands were based on the existing average and maximum day demands plus the equivalent demand of any planned taps. Attachment #4 - RSPCS Table 7 shows the RSPCS 2038 peak day demand projections for each participant. The peak day water demands assume that the regional participant's local supply is out of service and the Regional system would need to provide all water use for the assigned service class. The peak day demand presented in the RSPCS is the estimated maximum water supply required from the Madison pipelines. The RSPCS potential participant peak day demands and the potential participant total of 4,702 gpm are also shown on Attachment #3 - Table 1 – Regional Data. As shown in Table 1, the individual participant demands indexed forward to 2040 produce a peak day demand totaling 4,806 gpm with an equivalent population of 11,290.

The following table compares the RSPCS and TM #3 projected regional demands and populations:

Study	*Projected Regional Demand (gpm)*	*Projected Regional Demand (MGD)*	*Equivalent Population*
RSPCS	4,806	6.9	11,290
Level II/TM #3	5,114	7.4	12,012
Difference	-307	-0.4	-722

The difference between the two projected demands is less than 3%. Because the Level II/TM #3 regional projections are more conservative than the RSPCS projections, they will be used for the design of the GMPP.

The RSPCS anticipated future classes of service shown in Attachment #4 - RSPCS Table 7 specifies the water supply and fire protection to be provided. Future fire protection for participants along the Madison pipeline could impact the flow and pressure of the transmission system in a fire scenario. The impacts will likely be minimal; however, the fire scenarios will be considered during the storage analysis and hydraulic analysis to ensure the transmission system operates adequately during a fire scenario. The fire protection requirements for participants not located along the transmission line will need to be addressed in the regional connection design. The classes of service options outlined in the RSPCS are:

Class A – No water service provided by the Regional System.

- Class B – Shared water service with water sold from the participant's water supply to the regional system, with the capability for providing full water service without fire protection from the regional system.
- Class C – Emergency water interconnect only, with water supplied when participant's water supply fails. This is a short-term supply, used only until the system failure is repaired.
- Class D – Supplemental water connection, with water supplied to supplement participant's existing water supply either on a seasonal basis for peaking or a base load basis.
- Class E – Full service water connection without fire protection, with water supplied to replace participant's existing supply.
- Class F – Full service water connection with fire protection, with water supplied to replace participant's existing supply including fire flows.
- Class G – Integration into the Gillette water system, operating as part of their water distribution system.

The RSPCS future classes of service for potential participants along the Madison pipeline are listed below and are also shown on Attachment #3 - Table 1 – Regional Data.

Potential Regional Participant	*Future Class of Service*
Rozet Ranchettes	E
Ward Creek Landowners Association	F
Rozet	E
Wessex Improvement & Service District	E
Cedar Hills Water Association	F
Freedom Hills Subdivision	E
American Road Water and Sewer District	E
Meadow Springs Improvement & Service District	E
Nickelson Farms Water Company	E
Rodeo Flats Water Distribution	E
Central Campbell County Improvement & Service District	B
Antelope Valley – South Douglas Highway Improvement & Service District	B
Antelope Valley Business Park Improvement & Service District	F
Crestview Estates Subdivision	B
Hitching Post Trailer Court – South Douglas Highway I & S District	E

REGIONAL WATER STORAGE CONSIDERATIONS

The City's water storage philosophy is to have emergency storage to meet the peak day demand for 24 hours. The City's current water storage generally meets this goal. As regional participants connect to the system additional storage will need to be added to meet the City's desired emergency storage goal. The new source requirement for peak day flow is 23.10 MGD therefore the new storage required, assuming full regional buildout, is 23.10 million gallons of effective storage. This storage will likely be accomplished through a combination of additional City storage and existing and future regional participant storage.

The storage requirements for the City and the potential regional participants are outside the scope of this project; however, the following table provides estimated additional storage requirements based on the assumed population growth rates.

Year	*2020*	*2030*	*2040*
Storage (MG)	6.9	7.7	8.5

REGIONAL WATER QUALITY CONSIDERATIONS

The RSPCS states on page 24 that "Water quality considerations that need to be addressed in constructing the regional water distribution system and the connections to the potential participants include chlorine residual, fluoride levels, disinfection byproducts (DBPs), and blending for hardness mitigation." It further states that the regional system is required to meet the SDWA requirements at the delivery points to each of the participants and that the water is the responsibility of the purchasing system downstream of the master meter.

The design of this project will include limited analysis of the water quality in the proposed Madison pipeline only. It is assumed the master meters for the regional connections will be located as close as possible to the pipelines and therefore the water quality delivered at the master meter will be the same as that of the pipeline. The scope of this project ends at the service connection stub and the water quality of the regional connection past the stub will need to be addressed in the regional connection design. Blending for hardness mitigation is also discussed in TM #5. At this time the proposed regional connections along the Madison pipeline are anticipated to receive raw Madison water, rather than blended water. If the blending point is moved upstream, some regional connections could receive blended water.

REGIONAL SERVICE CONNECTION IMPLEMENTATION PHASING

The RSPCS recommends the Class B participants that could contribute excess Fort Union formation well supply water to the regional system should be connected first, which include Antelope Valley, Crestview, and Sleepy Hollow. It also states that potential participants that are located closest to the new Madison transmission pipeline should be connected concurrently with its installation.

Currently, the scope of this project includes connection stubs for the Class B participants, but it does not consider connection of the class B participants to contribute excess water supply to the system. Similarly, the scope of this project includes connection stubs to the closest potential regional participants along the transmission line, but does not included connection of the potential participants. If desired by the City, we would be happy to include these tasks in this project.

SUMMARY OF REGIONAL WATER PLAN

The Level II/TM #3 and RSPCS regional demand projections differed by less than 3%. The more conservation Level II/TM #3 future regional demand projection of 5,114 gpm will be used for the design of the pipeline rather than the RSPCS demand projection of 4,806 gpm. The connection locations proposed in the RSPCS appear to be compatible with the conceptual alignment and will be used for the preliminary layout of the connection stubs with the exception of the Antelope Valley and Crestview connections. The connection stubs for Antelope Valley and Crestview will be designed along the revised alignment at or near the intersection of Schoonover Street and Patty Avenue.

Please advise the GMPP design team if changes are made to the proposed regional demands and connection locations as the overall regional water system is developed.

Proposed RSPCS Connection - 10% Design Drawings Alignment Station	Proposed RSPCS Connection - 10% Design Drawings Page No.	Proposed RSPCS Shared Connection Line	Regional Participant	Type of Service	Future Class of Service	RSPCS Table 7 2038 Max Day Peak Hour Demand (gpm)	**RSPCS 2038 Demands Projected to 2040 Peak Day Demand (1.10%/yr) (gpm)**
Sta 778+00	T20	Ward Creek Line #1	Rozet Ranchettes	1	E	75	**76.7**
			Ward Creek Landowners Association	1	F	34	**34.8**
			Rozet	1	E	173	**176.8**
Sta 1095+00	T27	Ward Creek Line #2	Wessex Improvement & Service District	1	E	10	**10.2**
Sta 531+00	T14	Meadow Springs Line	Cedar Hills Water Association	1	F	107	**109.4**
			Freedom Hills Subdivision	1	E	152	**155.4**
			American Road Water and Sewer District	1	E	64	**65.4**
			Meadow Springs Improvement & Service District	1	E	14	**14.3**
Sta 308+00	T7	Nickelson Farms Line	Nickelson Farms Water Company	1	E	160	**163.5**
			Rodeo Flats Water Distribution	2	E	13	**13.3**
Sta 227+00	T4	Central Campbell County Line #1	Central Campbell County Improvement & Service District	1	B	155	**158.4**
Sta 181+00	T5	Central Campbell County Line #2					**0.0**
Sta 137+00	T3	Antelope Valley Line	Antelope Valley – South Douglas Highway I & S District	1	B	694	**709.4**
			Antelope Valley Business Park I & S District	1	F	13	**13.3**
Sta 114+00	T3	Crestview Line	Crestview Estates Subdivision	1	B	157	**160.5**
			Hitching Post Trailer Court – South Douglas Highway I & S District	1	E	80	**81.8**
		Countryside Line	Countryside Water Users, Inc.	2	E	85	**86.9**
		Wrangler Estates Line	Buckskin Meadows Subdivision	2	E	16	**16.4**
			Wrangler Estates	2	E	173	**176.8**
		Airport Line	Lakeview Mobile Home Park	2	E	7	**7.2**
			Means Water and Sewer District	2	E	155	**158.4**
			Hoy Mobile Home Park	2	E	21	**21.5**
			Section 4 Water System, Inc.	2	E	10	**10.2**
			Campbell County Airport	2	E	18	**18.4**
		Fox Ridge Line	Fox Ridge	2	E	58	**59.3**
		Eight Mile Line	Force Road Joint Powers Board	2	E	66	**67.5**
			South Fork Estates	2	E	46	**47.0**
			Rafter D Homeowners Association	2	E	27	**27.6**
			Stone Gate Estates	2	E	115	**117.5**
			Overbrook Subdivision	2	E	16	**16.4**
			Bennor Subdivision	2	E	54	**55.2**
			Cook Road Water District	2	F	162	**165.6**
			Eight Mile Subdivision	2	E	26	**26.6**
		Green Valley Line	RAG Coal West Inc./Rawhide School	2	E	5	**5.1**
			Glory Hole Homeowners Association	2	E	24	**24.5**
			Green Valley Estates Improvement & Service District	2	E	82	**83.8**
		Ridgeway Line	Ridgeway Community Well Association	2	E	16	**16.4**
		Direct Connections	Lemaster Enterprises	2	G	21	**21.5**
			Antelope Mobile Home Park	2	G	58	**59.3**
			Peoples Improvement & Service District	2	G	72	**73.6**
			Stroup Trailer Court – South Douglas Highway I & S District	2	G	61	**62.3**
			Southside Well Improvement & Service District	2	G	46	**47.0**
			Mohan Subdivision – South Douglas Highway I & S District	2	G	725	**741.0**
			Interstate Industrial Park	2	G	18	**18.4**
			Fox Park Subdivision	2	G	214	**218.7**
			Westridge Water Users Association	2	G	80	**81.8**
			Heritage Village Water and Sewer District	2	G	324	**331.2**
			RSPCS Total Potential Regional Demand (gpm)			4702	**4806**
			RSPCS Total Potential Regional Demand (MGD)			6.8	**6.9**
			RSPCS Equivalent Regional Population			11045	**11290**

TABLE 7 SUMMARY OF POTENTIAL PARTICIPANT'S FUTURE CONNECTIONS

Potential Regional Participant	Service Boundary	Type of Service	Interim Class of Service	Future Class of Service	Connection Size (inches)	Average Day Demand (gpm)	Maximum Day Average Demand (gpm)	Maximum Day Peak Hour Demand (gpm)	Preferred Delivery Point	Estimated Pressure at Delivery Point (psi)	Dedicated Waterline (lf)	Shared Waterline (lf)	Master Meter Size (inches)	Service Isolation Valve	Altitude Valve	New Pump Station	New Storage Tank	New Chlorine Booster Station
AMERICAN ROAD WATER AND SEWER	Probable	Type 1	Class D	Class E	6-inch	20	40	64	Existing Storage Tank	100 psi	750	11,000	4	Y	Y	N	N	N
ANTELOPE MOBILE HOME PARK	Probable	Type 2	Class C	Class G	8-inch	31	36	58	Direct Connection to Distribution System	110 psi	100	0	Individual Service Meters	Y	N	N	N	N
ANTELOPE VALLEY	Probable	Type 1	Class B	Class B	12-inch	85	434	694	Existing Storage Tank	15 psi	7,560	350	8	Y	Y	Y	N	N
ANTELOPE VALLEY BUISNESS PARK IMPROVEMENT & SERVICE DISTRICT	Probable	Type 1	Class D	Class F	8-inch	4	8	13	Existing Storage Tank	65 psi	930	350	6	Y	Y	N	N	N
BENNOR SUBDIVISION	Probable	Type 2	Class D	Class E	6-inch	8	34	54	Existing Storage Tank	150 psi	1,200	14,800	4	Y	Y	N	N	N
BUCKSKIN MEADOWS SUBDIVISION	Probable	Type 2	Class D	Class E	6-inch	4	10	16	New Storage Tank	100 psi	3,000	4,000	4	Y	Y	Y	Y	N
CAMPBELL COUNTY AIRPORT	Probable	Type 2	Class D	Class E	6-inch	4	11	18	Existing Storage Tank	80 psi	6,550	19,150	4	Y	Y	N	N	N
CEDAR HILLS WATER ASSOCIATION	Probable	Type 1	Class D	Class F	8-inch	23	67	107	Existing Storage Tank	140 psi	5,330	0	6	Y	Y	N	N	N
CENTRAL CAMPBELL COUNTY IMPROVEMENT & SERVICE DISTRICT	Probable	Type 1	Class B	Class B	8-inch	73	97	155	Existing Storage Tank	90 psi	1,550	0	6	Y	Y	N	N	N
COOK ROAD WATER DISTRICT	Probable	Type 2	Class D	Class F	8-inch	35	101	162	Existing Storage Tank	80 psi	16,000	15,400	6	Y	Y	N	N	N
COUNTRYSIDE WATER USERS	Probable	Type 2	Class D	Class E	6-inch	22	53	85	Existing Storage Tank	55 psi	5,850	350	4	Y	Y	N	N	N
CRESTVIEW ESTATES SUBDIVISION	Probable	Type 1	Class B	Class B	8-inch	42	98	157	Existing Storage Tank	15 psi	1,450	0	6	Y	Y	N	N	N
EIGHT MILE SUBDIVISION	Probable	Type 2	Class D	Class E	6-inch	9	16	26	Existing Storage Tank	125 psi	10,800	15,400	4	Y	Y	N	N	N
FORCE ROAD JOINT POWERS BOARD	Probable	Type 2	Class D	Class E	6-inch	17	41	66	Existing Storage Tank	130 psi	2,700	2,165	4	Y	Y	N	N	Y
FOX PARK SUBDIVSION	Probable	Type 2	Class C	Class G	-	67	134	214	Direct Connection to Distribution System	-	-	-	Individual Service Meters	-	-	-	-	-
FOX RIDGE	Probable	Type 2	Class A	Class E	8-inch	15	36	58	Existing Storage Tank	50 psi	24,900	0	4	Y	Y	N	N	N
FREEDOM HILLS SUBDIVISION	Probable	Type 1	Class D	Class E	8-inch	57	95	152	Existing Storage Tank	100 psi	50	7,200	6	Y	Y	N	N	N
GLORY HOLE HOMEOWNERS ASSOCIATION	Possible	Type 2	Class A	Class E	6-inch	6	15	24	New Storage Tank	45 psi	2,200	45,400	4	Y	Y	N	Y	Y
GREEN VALLEY ESTATES IMPROVEMENT & SERVICE DISTRICT	Possible	Type 2	Class A	Class E	6-inch	19	51	82	Existing Storage Tank	50 psi	7,500	45,400	4	Y	Y	N	N	N
HERITAGE VILLAGE WATER AND SEWER DISTRICT	Probable	Type 2	Class C	Class G	-	60	203	324	Direct Connection to Distribution System	80 psi	-	-	Individual Service Meters	Y	N	N	N	N
HITCHING POST TRAILER COURT	Probable	Type 1	Class D	Class E	6-inch	21	50	80	Existing Storage Tank	45 psi	1,150	0	4	Y	Y	N	N	N
HOY MOBILE HOME PARK	Probable	Type 2	Class D	Class E	6-inch	11	13	21	Existing Storage Tank	80 psi	500	18,650	4	Y	Y	N	N	N
INTERSTATE INDUSTRIAL PARK	Probable	Type 2	Class C	Class G	-	7	11	18	Direct Connection to Distribution System	-	-	-	Individual Service Meters	-	-	-	-	-
LAKEVIEW MOBLE HOME PARK	Probable	Type 2	Class D	Class E	6-inch	2	4	7	Existing Storage Tank	90 psi	550	2,700	4	Y	Y	N	N	N
LEMASTER ENTERPRISES	Probable	Type 2	Class C	Class G	8-inch	5	13	21	Direct Connection to Distribution System	90 psi	1,050	350	Individual Service Meters	Y	N	N	N	N
MEADOW SPRINGS IMPROVEMENT & SERVICE DISTICT	Probable	Type 1	Class D	Class E	6-inch	3	9	14	Existing Storage Tank	110 psi	8,200	11,000	4	Y	Y	N	N	N
MEANS WATER AND SEWER DISTRICT	Probable	Type 2	Class D	Class E	8-inch	58	97	155	Existing Storage Tank	80 psi	2,300	8,300	6	Y	Y	N	N	N
MOHAN SUBDIVISION	Probable	Type 2	Class G	Class G	8-inch looped	189	456	725	Direct Connection to Distribution System	80 psi	3,900	0	Individual Service Meters	Y	N	N	N	N
NICKELSON FARMS WATER COMPANY	Probable	Type 1	Class D	Class E	8-inch	36	100	160	Existing Storage Tank	50 psi	7,800	20,000	6	Y	Y	N	N	N
OVERBROOK SUBDIVISION	Probable	Type 2	Class D	Class E	6-inch	8	10	16	Existing Storage Tank	180 psi	1,100	14,000	4	Y	Y	N	N	N
PEOPLES IMPROVEMENT & SERVICE DISTRICT	Probable	Type 2	Class C	Class G	6-inch	18	45	72	Direct Connection to Distribution System	50 psi	1,400	0	Individual Service Meters	Y	N	Y	N	N
RAFTER D HOMEOWNERS ASSOCIATION	Probable	Type 2	Class D	Class E	6-inch	6	17	27	Existing Storage Tank	200 psi	350	0	4	Y	Y	N	N	N
RAG COAL WEST INC/ RAWHIDE SCHOOL	Possible	Type 2	Class A	Class E	6-inch	1	3	5	Existing Storage Tank	70 psi	1,300	18,100	4	Y	Y	N	N	Y
RIDGEWAY COMMUNITY WELL ASSOCIATION	Possible	Type 2	Class A	Class E	6-inch	4	10	16	Existing Storage Tank	110 psi	35,770	0	4	Y	Y	N	N	N
RODEO FLATS WATER DISTRIBUTION	Probable	Type 2	Class D	Class E	6-inch	2	8	13	Existing Storage Tank	115 psi	5,850	17,300	4	Y	Y	N	N	N
ROZET	Probable	Type 1	Class E	Class E	8-inch	45	108	173	New Storage Tank	240 psi	500	11,900	6	Y	Y	N	Y	Y
ROZET RANCHETTES	Probable	Type 1	Class D	Class E	6-inch	20	47	75	Existing Storage Tank	220 psi	200	0	4	Y	Y	N	N	N
SECTION 4 WATER SYSTEM, INC	Probable	Type 2	Class D	Class E	6-inch	4	6	10	Existing Storage Tank	80 psi	800	18,650	4	Y	Y	N	N	N
SOUTHFORK ESTATES	Probable	Type 2	Class D	Class E	6-inch	12	29	46	Existing Storage Tank	170 psi	2,700	0	4	Y	Y	N	N	N
SOUTHSIDE WELL IMPROVEMENT & SERVICE DISTRICT	Probable	Type 2	Class C	Class G	8-inch	4	29	46	Direct Connection to Distribution System	100 psi	100	0	Individual Service Meters	Y	N	N	N	N
STONE GATE ESTATES	Probable	Type 2	Class D	Class E	8-inch	28	72	115	Existing Storage Tank	120 psi	1,330	0	6	Y	Y	N	N	N
STROUP TRAILER COURT	Probable	Type 2	Class C	Class G	8-inch	16	38	61	Direct Connection to Distribution System	90 psi	300	0	Individual Service Meters	Y	N	N	N	N
WARD CREEK LANDOWNERS ASSOCIATION	Probable	Type 1	Class D	Class F	8-inch	9	21	34	Existing Storage Tank	180 psi	18,700	11,900	6	Y	Y	N	N	N
WESSEX IMPROVEMENT & SERVICE DISTRICT	Probable	Type 1	Class D	Class E	6-inch	2	6	10	Existing Storage Tank	50 psi	1,670	0	4	Y	Y	N	N	Y
WESTRIDGE WATER USERS ASSOCIATION	Probable	Type 2	Class C	Class G	-	21	50	80	Direct Connection to Distribution System	-	-	-	Individual Service Meters	-	-	-	-	-
WRANGLER ESTATES	Probable	Type 2	Class D	Class E	8-inch	35	108	173	Existing Storage Tank	115 psi	6,170	6,030	6	Y	Y	N	N	N